




Mill Test Certificate

Bri-Steel Manufacturing
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Product: Seamless Carbon Steel Pipe Product Heat Number: BSM-3285 Product Size: NPS 24 STD Production Date: Oct 16, 2017
 Production Method: Hot Expansion Product Heat Treatment: Normalizing Forming Certificate No.: MTR- 003553
 Product Standards: ASME B36.10M-2015, API 5L-45th Ed. GradeB/X42 PSL1, ASTM/ASME A106-2014/SA106-2015 Grade B NDE, A53-2012/SA53-2015 Grade B Type S, NACE MR0175/ISO 15156-2:2015 MR0103/ISO 17495:2015

Product Markings  <API & L/C No.> API SPEC 5L NPS 24 STD 0.375 INCHWT GRB/X42 PSL1 SMLS 2017/10 NDE 1180PSI
 HEAT BSM-3285 (PIPE # LENGTH MASS) 94.76lb/ft ASTM/ASME A/SA106 GR B A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA

Product: Details						Non-Destructive Testing								
Heat	Test Type	Product Size	Pieces	Length	Mass lb/ft	Geiger μ R/hr	Res. Mag. Gauss	Visual Insp.	OD	UT (WT) ASTM E114	UT ASTM E213	ET ASTM E309	HydroTest 1180PSI/ 5s	End Condition
BSM-3285	Heat	NPS 24 STD 0.375in. WT	26	DRL	94.76	<5	<10	Pass	Pass	-	N12.5 Pass	-	Pass	35° Bevel

Chemical Analysis (wt%)																			
Heat	Steelmaking Method	Test Type	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	Mn/C	CE(IIW)	CE(IIW)Max	CE(CSA)
BSM-3285	Blast Furnace; EAF; Ladle Refining; Vacuum Degas; Fully Killed (at HuaiAn China)	Heat	0.19	0.44	0.008	0.004	0.23	0.14	0.10	0.01	0.05	0.002	0.001	0.001	0.0001	2.32	0.30	-	0.31
		Product	0.22	0.44	0.008	0.004	0.24	0.15	0.11	0.01	0.05	0.002	0.001	0.001	0.0003	2.00	0.34	0.43	0.35
			0.20	0.43	0.011	0.004	0.23	0.18	0.09	0.01	0.05	0.002	0.001	0.001	0.0003	2.15	0.32	0.43	0.33


Mechanical Properties									
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test 2 in. GL	Yield (Rt0.5) psi	Tensile (Rm) psi	Y/T (Rt0.5/Rm)	Elongation (A) %
BSM-3285	Heat	Ferrite & Pearlite	73 HRBW	Pass	Longitudinal; 1.5 in. x WT	42 400	62 500	0.68	41

Heat	Test Standard	Result	Impact Test Sample Details	Temp °C	Impact Energy Min. (J)	Impact Energy Results (J)	Shear (%)	Lateral Expansion (mm)
					(3 Tests) AVG	(3 Tests) AVG	(3 Tests) AVG	(3 Tests) AVG
BSM-3285	-	-	-	-	-	-	-	-

Additional Details:

- ✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing in accordance with GRX42 ASTM/ASME A106-2014/SA106-2015, A/SA53 GR B and the purchase order requirements, and that the results meet the corresponding requirements. Bri-Steel Manufacturing is registered and certified to ISO 9001:2015 (APIQR-1584), API Q1, and PED 2014/68/EU.
- ✓ This pipe product meets the **SOUR SERVICE** requirements of ANSI/NACE MR0175/ISO 15156-2A:2015 (Annex A2 for Region 3 Sour Service), and ANSI/NACE MR0103/ISO 17495:2015 Section 13.1

Mill Test Certificate approved by:


 Tonya Lam, P. Tech (Eng.)
 Assistant QA Manager

- ✓ No weld repairs have been performed on this product.
- ✓ This product has not come into contact with mercury during the Bri-Steel Manufacturing processes.
- ✓ This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1.